

What is claimed is:

1. A folding knife, comprising:

a handle having a pivot shaft, the pivot shaft defining a rotational axis;

a blade having a tang at one end, the tang being rotatably mounted to the handle and about the pivot shaft between a closed position and an open position,

a pin positioned on and extending from the tang of the blade, the pin being spaced apart from the rotational axis;

a bias element having a fixed end and a spaced free end, said fixed end being connected to said handle, a portion of the bias element proximate the free end thereof being in continuous urging contact with the pin to assist in the movement of the blade into its open position.

2. The folding knife of Claim 1, wherein the pin extends transversely from the tang of the blade.

3. The folding knife of Claim 1, wherein the pin is spaced from the rotational axis such that the pin follows a predetermined path as the blade is rotated relative to the handle.

4. The folding knife of Claim 3, wherein the predetermined path is arcuate.

5. The folding knife of Claim 3, wherein the handle has a back end and wherein at least a portion of the predetermined path is defined therein intermediate the back end of the handle and the rotational axis.

6. The folding knife of Claim 6, wherein the bias element is housed within said blade cavity such that the bias element is positioned substantially to one side of a blade plane defined by said blade.
7. The folding knife of Claim 6, wherein the bias element is positioned substantially parallel to the blade plane.
8. The folding knife of Claim 7, wherein the bias element is constructed and arranged so that the bias element deflects in a bias element plane, and wherein the bias element plane is parallel to the blade plane.
9. The folding knife of Claim 3, wherein the handle includes a pair of spaced side members defining a blade cavity therebetween, each side member having an interior surface.
10. The folding knife of Claim 9, wherein the handle further includes at least one liner member housed within the blade cavity, a first liner member of the at least one liner member being connected to a first side member of the pair of side members and defining a bias element cavity therebetween, the bias element being housed within the bias element cavity.
11. The folding knife of Claim 10, wherein a slot is defined in the first liner member, the slot constructed and arranged for passage of the pin, the slot being spaced with respect to the rotational axis.
12. The folding knife of Claim 11, wherein the pin has a distal end, and wherein at least a portion of the pin extends above the first liner member into the bias element cavity.
13. The folding knife of Claim 12, wherein the slot has an arcuate shape.

14. The folding knife of Claim 12, wherein each side member has a front end and a back end, wherein the first side member defines an elongated recess within the interior surface of the first side member, the recess having a first end, intermediate the front end and back end of the first side member, and a spaced second end, adjacent the front end of the first side member, the first end of the recess defining an elongated groove, wherein a portion of the recess forms a pair of opposing side walls intermediate the first and second ends of the recess, wherein the pair of opposing side walls taper away from each other as the respective side walls approach the second end of the recess.
15. The folding knife of Claim 14, wherein a portion of the first liner member and the recess of the first side member define the bias element cavity.
16. The folding knife of Claim 15, wherein a portion of the fixed end of the bias element is mounted therein the elongated groove of the recess.
17. The folding knife of Claim 16, wherein the bias element has a bent portion intermediate the fixed end and the free end of the bias element.
18. The folding knife of Claim 1, wherein the bias element is a flexible rod.
19. The folding knife of Claim 1, wherein the bias element exerts an opening force when the blade is moved from its closed position to beyond a first equilibrium position in a first rotational direction.
20. The folding knife of Claim 1, wherein the bias element exerts a closing force when the blade is moved toward its closed position to beyond a second equilibrium position in a second rotational direction.

21. A folding knife, comprising:
- a. a blade having a cutting edge extending along at least a portion of at least one side thereof and a tang at one end;
 - b. an elongate handle having a front end, a back end, and defining a recessed blade cavity therein;
 - c. a pivot shaft constructed and arranged for pivotally connecting said tang to said handle proximate the front end of said handle so that the blade is rotatable about a rotational axis;
 - d. a pin positioned on and extending from the tang of the blade, the pin being spaced apart from the rotational axis;
 - e. a bias element housed within the blade cavity such that the bias element is positioned substantially to one side of a blade plane defined by said blade, the bias element having a free end, a portion of the bias element proximate the free end thereof being in continuous urging contact with the pin to assist in the movement of the blade into its opening position.
22. The folding knife of Claim 21, wherein the pin extends transversely from the tang of the blade.
23. The folding knife of Claim 22, wherein the pin is spaced from the rotational axis such that the pin follows a predetermined path as the blade is rotated relative to the handle.
24. The folding knife of Claim 23, wherein the predetermined path is arcuate.
25. The folding knife of Claim 23, wherein at least a portion of the predetermined path is defined therein intermediate the back end of the handle and the rotational axis.
26. The folding knife of Claim 21, wherein the bias element is positioned substantially to one side of a blade plane defined by said blade.

27. The folding knife of Claim 26, wherein the bias element is positioned substantially parallel to the blade plane.
28. The folding knife of Claim 27, wherein the bias element is constructed and arranged so that the bias element deflects in a bias element plane, and wherein the bias element plane is parallel to the blade plane.
29. The folding knife of Claim 23, wherein the handle comprises a pair of spaced side members defining the blade cavity therebetween, each side member having an interior surface.
30. The folding knife of Claim 29, wherein the handle further includes at least one liner member housed within the blade cavity, a first liner member of the at least one liner member being connected to a first side member of the pair of side members and defining a bias element cavity therebetween, the bias element being housed within the bias element cavity.
31. The folding knife of Claim 30, wherein the pivot shaft is connect to and extends between the first liner member and a second side member of the pair of side members.
32. The folding knife of Claim 30, wherein a slot is defined in the first liner member, the slot constructed and arranged for passage of the pin, the slot being spaced with respect to the rotational axis.
33. The folding knife of Claim 32, wherein the pin has a distal end, and wherein at least a portion of the pin extends above the first liner member into the bias element cavity.

34. The folding knife of Claim 33, wherein the slot has an arcuate shape.
35. The folding knife of Claim 33, wherein each side member has a front end and a back end, wherein the first side member defines an elongated recess within the interior surface of the first side member, the recess having a first end, intermediate the front end and back end of the first side member, and a spaced second end, adjacent the front end of the first side member, the first end of the recess defining an elongated groove, wherein a portion of the recess forms a pair of opposing side walls intermediate the first and second ends of the recess, wherein the pair of opposing side walls taper away from each other as the respective side walls approach the second end of the recess.
36. The folding knife of Claim 35, wherein a portion of the first liner member and the recess of the first side member define the bias element cavity.
37. The folding knife of Claim 36, wherein a portion of the fixed end of the bias element is mounted therein the elongated groove of the recess.
38. The folding knife of Claim 37, wherein the bias element has a bent portion intermediate the fixed end and the free end of the bias element.
39. The folding knife of Claim 21, wherein the bias element exerts an opening force when the blade is moved from its closed position to beyond a first equilibrium position in a first rotational direction.
40. The folding knife of Claim 21, wherein the bias element exerts a closing force when the blade is moved toward its closed position to beyond a second equilibrium position in a second rotational direction.

41. A folding knife, comprising:
- a. a blade having a cutting edge extending along at least a portion of at least one side thereof and a tang at one end;
 - b. an elongate handle having a front end, a back end, and defining a recessed blade cavity therein;
 - c. a pivot shaft constructed and arranged for pivotally connecting said tang to said handle proximate the front end of said handle so that the blade is rotatable about a rotational axis;
 - d. a pin positioned on and extending from the tang of the blade, the pin being spaced apart from the rotational axis;
 - e. a bias element housed within the blade cavity constructed and arranged such that the bias element deflects in a bias element plane that is parallel to one side of a blade plane defined by said blade, the bias element having a free end, a portion of the bias element proximate the free end thereof being in continuous urging contact with the pin to assist in the movement of the blade into its opening position.
42. The folding knife of Claim 41, wherein the pin extends transversely from the tang of the blade.
43. The folding knife of Claim 41, wherein the pin is spaced from the rotational axis such that the pin follows a predetermined arcuate path as the blade is rotated relative to the handle.
44. The folding knife of Claim 43, wherein the handle comprises a pair of spaced side members defining the blade cavity therebetween, each side member having an interior surface, the handle further comprising at least one liner member housed within the blade cavity, a first liner member of the at least one liner member being connected to a first side member of the pair of side members and defining a bias element cavity therebetween, the bias element being housed within the bias element cavity.

45. The folding knife of Claim 44, wherein the pivot shaft is connect to and extends between the first liner member and a second side member of the pair of side members.

46. The folding knife of Claim 44, wherein a slot is defined in the first liner member, the slot constructed and arranged for passage of the pin, the slot being spaced with respect to the rotational axis.

47. The folding knife of Claim 44, wherein the pin has a distal end, and wherein at least a portion of the pin extends above the first liner member into the bias element cavity.

48. The folding knife of Claim 47, wherein each side member has a front end and a back end, wherein the first side member defines an elongated recess within the interior surface of the first side member, the recess having a first end, intermediate the front end and back end of the first side member, and a spaced second end, adjacent the front end of the first side member, the first end of the recess defining an elongated groove, wherein a portion of the recess forms a pair of opposing side walls intermediate the first and second ends of the recess, wherein the pair of opposing side walls taper away from each other as the respective side walls approach the second end of the recess and wherein a portion of the first liner member and the recess of the first side member define the bias element cavity.

49. The folding knife of Claim 48, wherein a portion of the fixed end of the bias element is mounted therein the elongated groove of the recess.

50. The folding knife of Claim 41, wherein the bias element exerts an opening force when the blade is moved from its closed position to beyond a first equilibrium position in a first rotational direction.

51. The folding knife of Claim 41, wherein the bias element exerts a closing force when the blade is moved toward its closed position to beyond a second equilibrium position in a second rotational direction.